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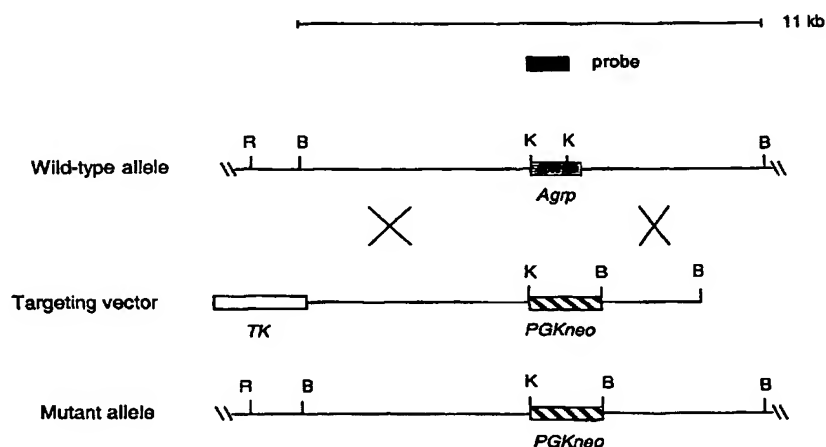
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(54) Title: AGOUTI-RELATED PROTEIN DEFICIENT CELLS, NON-HUMAN TRANSGENIC ANIMALS AND METHODS OF SELECTING COMPOUNDS WHICH REGULATE ENERGY METABOLISM



(57) **Abstract:** Cells and non-human transgenic animals have been engineered to be deficient in the gene encoding agouti-related protein (AgRP). AgRP deficient transgenic animals have a reduced day time respiratory quotient (RQ), indicating that AgRP is involved in the regulation of energy metabolism, resulting in the reduced usage of fat as an energy source. These AgRP deficient transgenic animals can be used to select for and test potential modulators of AgRP. This data allows for methods of screening for AgRP modulators which regulate energy metabolism and caloric utilization. The disclosure also relates to a NPY/AgRP double knockout mouse which can be used to select for and test potential modulators (e.g., agonists or antagonists) of AgRP and/or NPY.